

# ASYMMETRIC COMPARATOR FOR LOW POWER APPLICATIONS

## Abstract of the Disclosure

A method and structure for comparing an input signal to a reference signal using a comparator comprises a circuit for setting a trip point of a rising edge of an input signal according to a value of an external voltage reference; and at least two transistors, in the circuit, for setting a trip point of a falling edge of an input signal, according to a width-to-length ratio of the at least two transistors. Moreover, the at least two transistors comprises a first transistor of length ( $L_x$ ) and a width of ( $W_x$ ); and a second transistor of length ( $L_y$ ) and a width of ( $W_y$ ), wherein the width-to-length ratio equals  $(W_x L_y)/(W_y L_x)$ . The trip point of a falling edge of an input signal increases (decreases) by increasing (decreasing) the width-to-length ratio.

## Figures

$\frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} f(x) \delta(x-a) dx = f(a)$